

NCP

SECURE COMMUNICATIONS ■





INDUSTRY 4.0 & IIOT CHANGES SECURITY CHALLENGES

■ Julian Weinberger | NCP engineering | +1 (650) 316-6273 | www.ncp-e.com





INDUSTRY 4.0 & IIOT CHANGES SECURITY CHALLENGES

Agenda



Introduction



Challenges



Real-life Examples



Solution Overview



Where is Action Needed?





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Industrial Revolutions



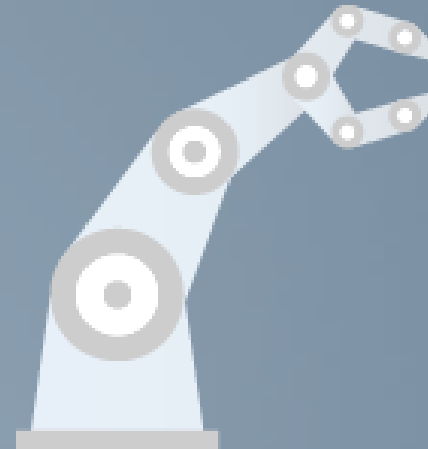
1st

**Mechanization,
water power,
steam power**



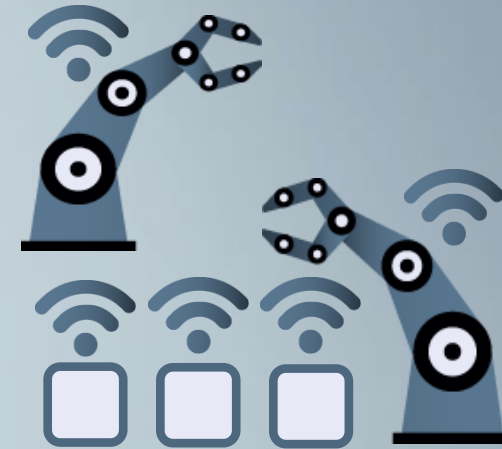
2nd

**Mass production,
assembly line,
electricity**



3rd

**Computer and
automation**



4th

**Cyber Physical
Systems**

INDUSTRY 4.0

- automation and data exchange in manufacturing
- connecting industry systems, production and business applications
- incl. cyber physical systems, Internet of things, cloud computing and cognitive computing



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Industrial Internet of Things vs. Internet of Things





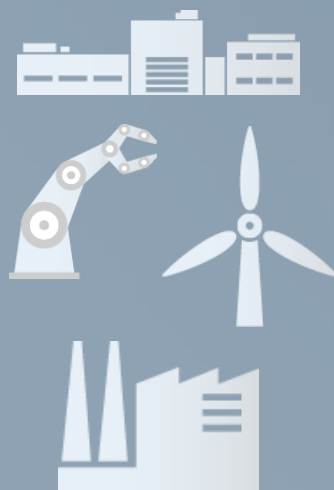
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Who is Involved?

INFORMATION TECHNOLOGY



OPERATION TECHNOLOGY



IIOT VENDOR



SECURITY VENDOR



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Components and central management
connected via standard protocols and interfaces

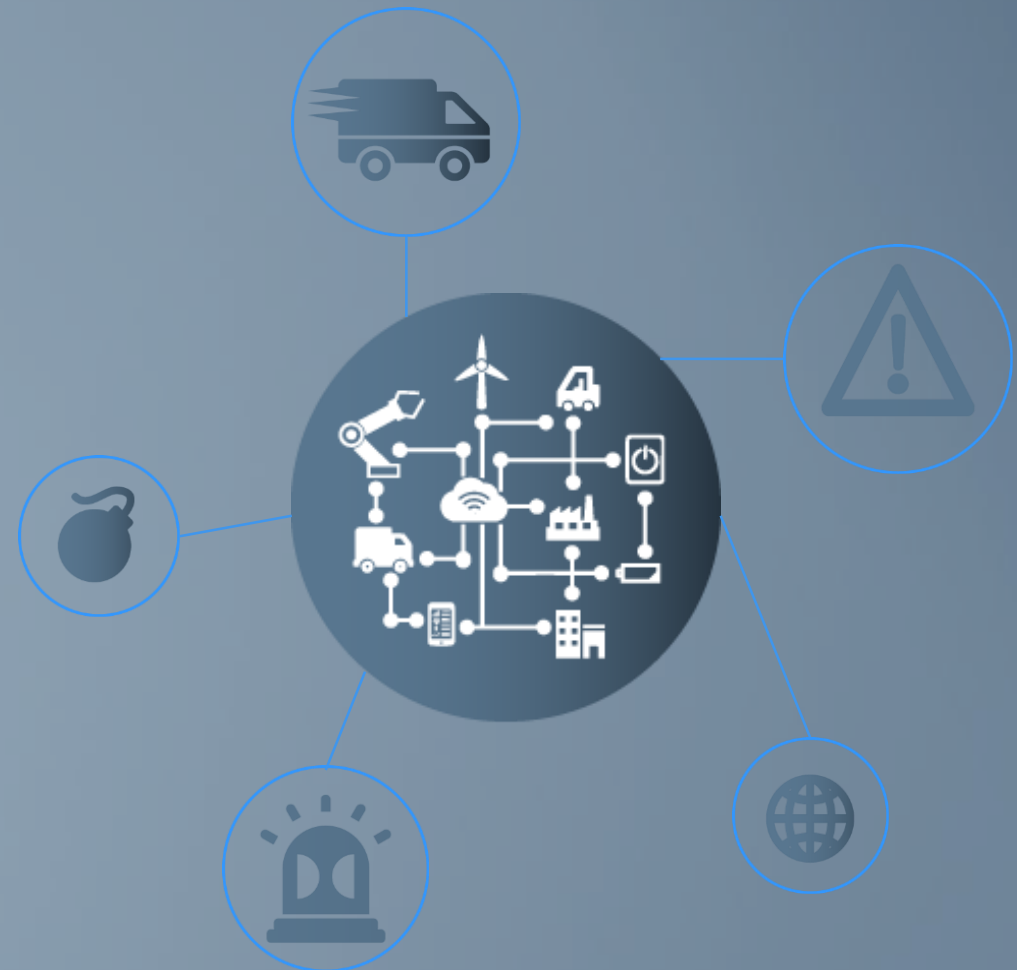


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Challenges of Industrial Internet of Things (IIoT)

Challenges for

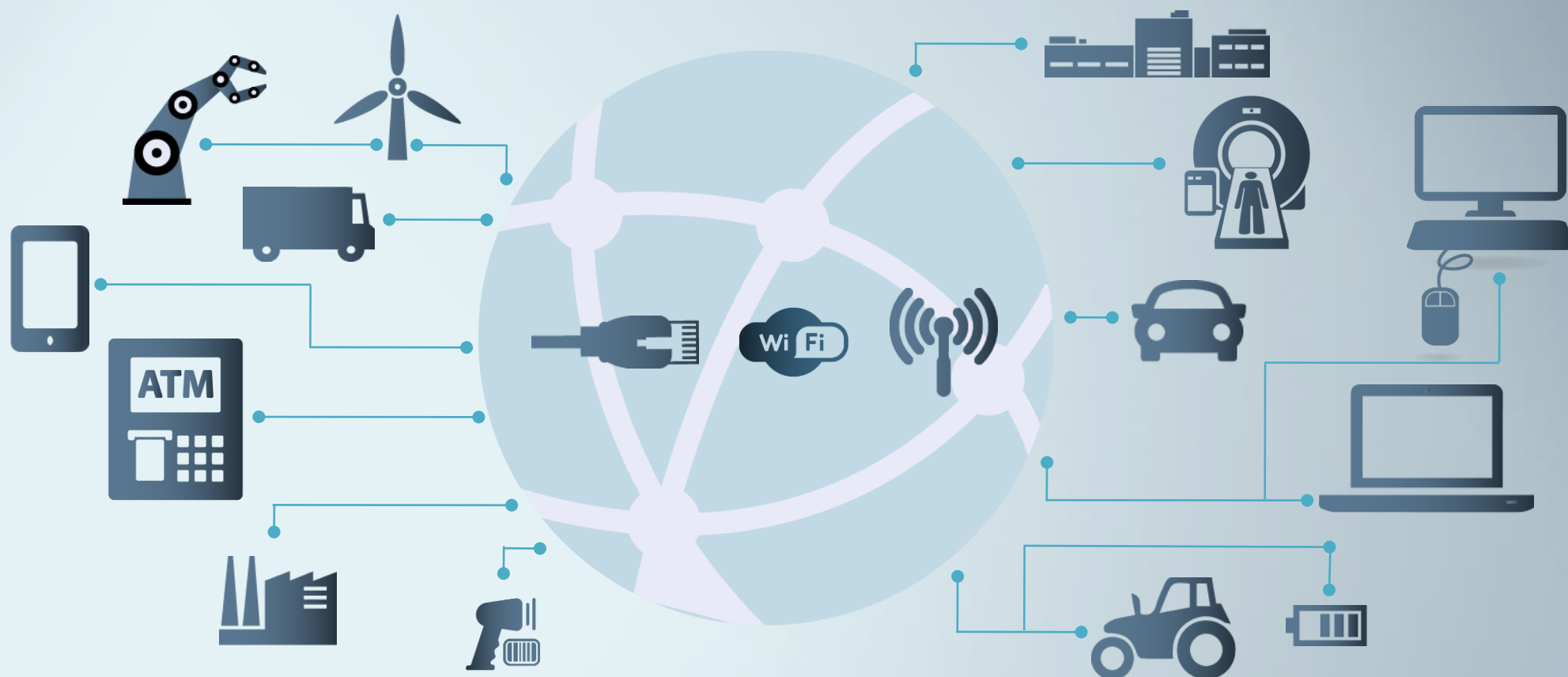
- the enterprise
 - IT (Information Technology)
 - OT (Operation Technology)
- the vendor
 - creating Industrial Internet of Things
 - creating security solutions for Industrial Internet of Things





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Cybersecurity Threats in Complex Environments





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Challenges for the Enterprise

Operation Technology

- implementation in current environment (incl. legacy products)
- data security
- reliability and stability of cyber physical communication
- maintaining the integrity of the production process
- longevity of device technology
- loss of high-paying human jobs
- avoiding technical problems

Information Technology

- implementation in current network infrastructure
- increasing amount of mobile technology
- maintain the visibility of “things”
- dealing with unknown technology
- IIoT complexity magnifies cyber risk
- cyber security putting public safety at risk
- data volume poses threat to cyber security
- Compliance and regulation issues
- availability of updates and patches for devices



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Challenges for the Vendor

IIoT vendor

- fast time to market
- scalability
- costs
- innovation
- security

Security vendor

- “Things” are developed faster than the ability to secure them
- the variety of hardware and software is enormous
- current best practices can only partly be transferred to IIOT
- no common OS, CPU architecture or APIs for security features





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Solutions

Addressing challenges of IT/OT

- security
- visibility
- integrity
- complexity
- scalability
- longevity

Solutions

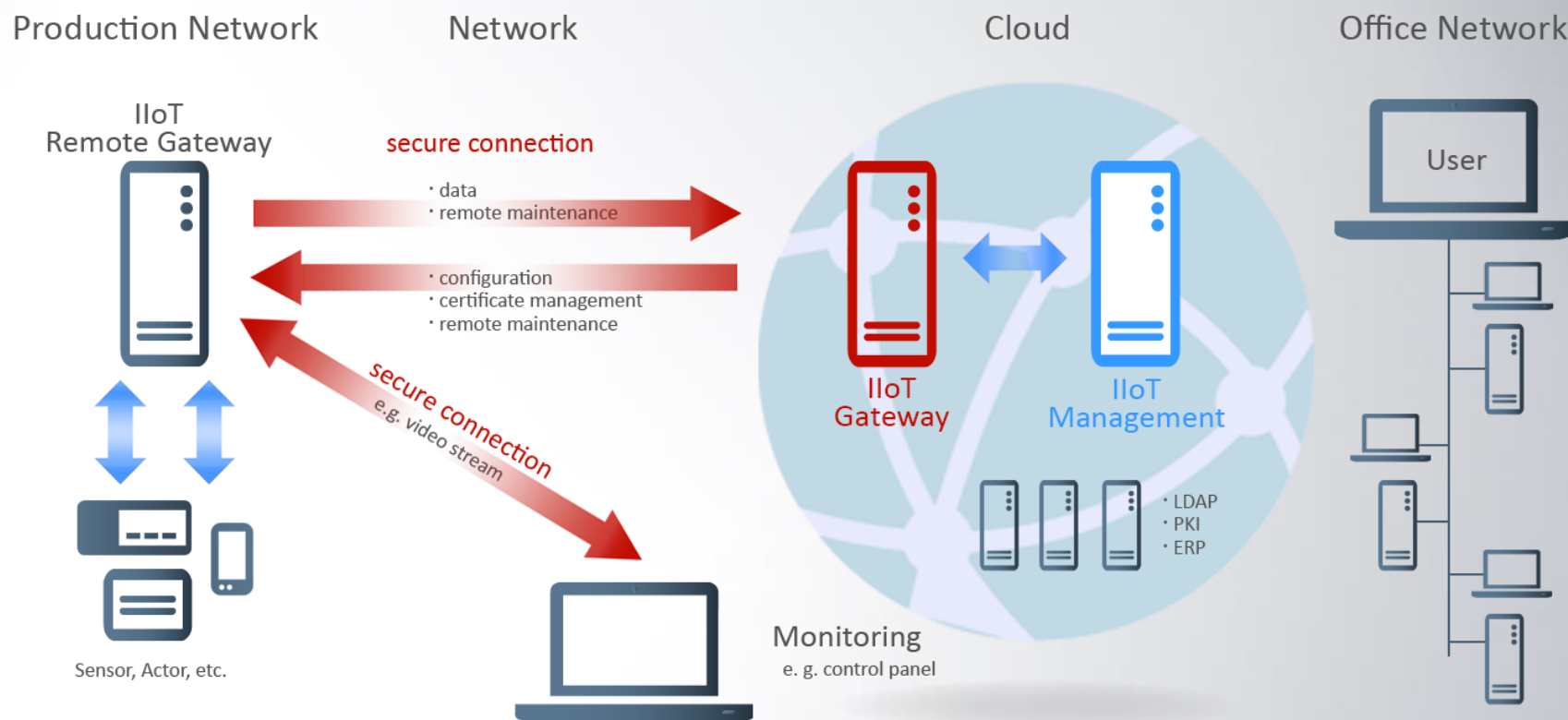
- authentication of connected devices
- encrypting all communications
- no data communication outside the company network
- sophisticated network and data monitoring
- management tools for entire IIOT environment
include update/patches





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Products – NCP Solutions for IIoT





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Cybersecurity Threats – Scenarios and Solutions

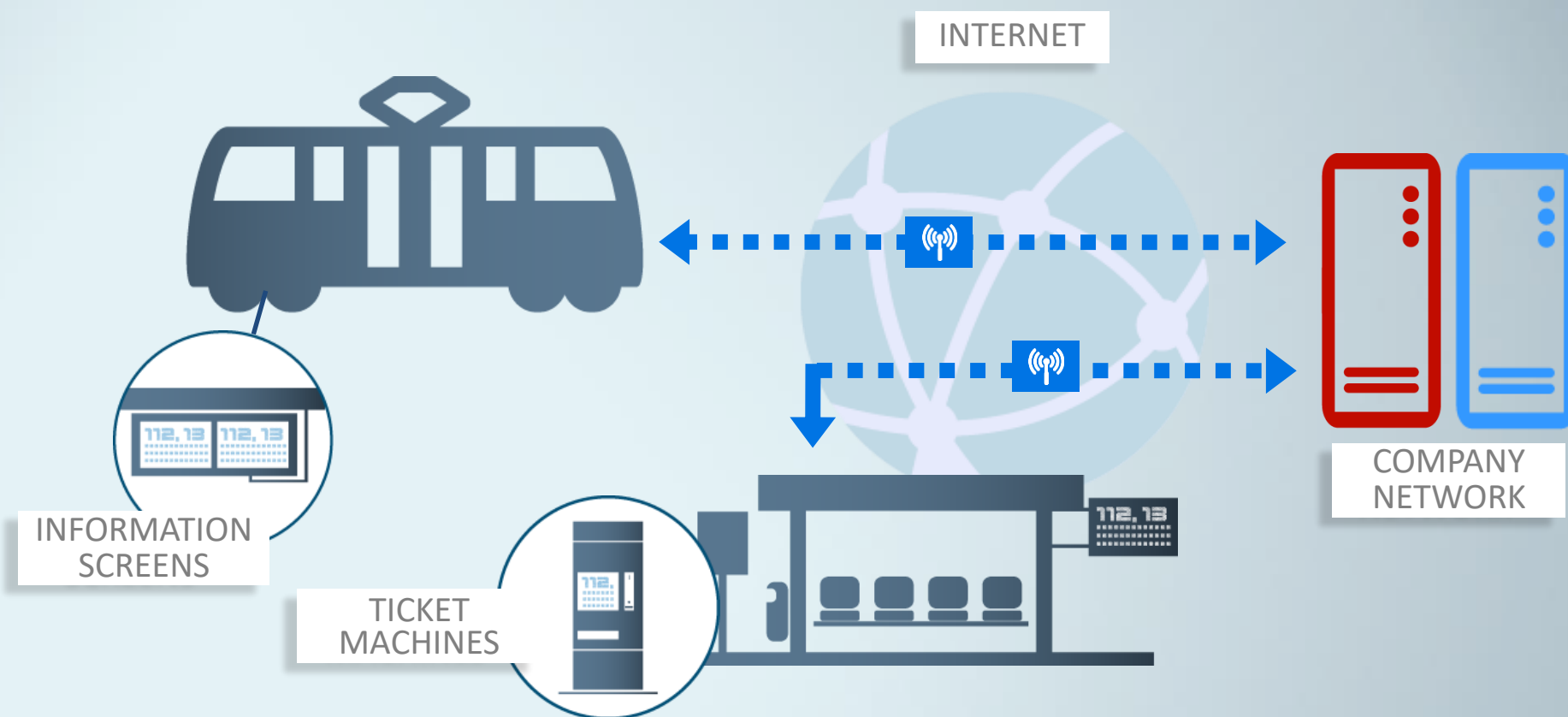




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Tram Information System

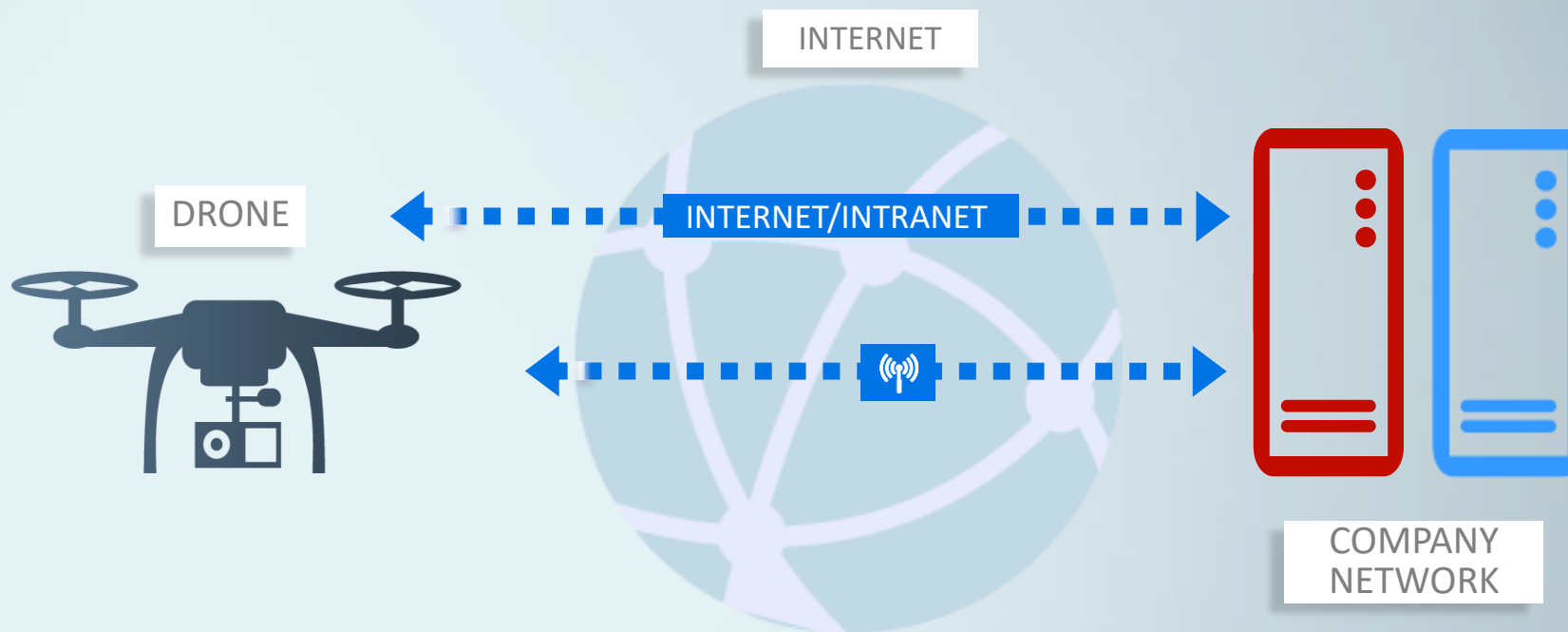
Information displayed directly on screens and ticket machines





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Automated Drone





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Where is Action Needed?



Security is key



Vendors for devices need to take security more seriously



Awareness of data security in companies at all levels



Threat modeling is important for all parties involved



Understand security as a measure of quality



Cloud solutions (public/private/location)



Building platforms for vendors and customers to address challenges





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IIoT solutions from TELETRUST

Security by Hardware – Hardware-based Data-diodes in Industrial Environments
Siegfried Mueller, CEO, MB connect line GmbH, Germany

Identity as an Appliance
Dirk Wahlefeld, Business Analyst (C)IAM & IT Security, ITConcepts Professional GmbH, Germany

From one Human Identity to Millions of Digital Identities Without Security?
Matthias Kirchhoff, Managing Director, digitronic computersysteme gmbh, Germany

The Achelos Test Environment for TLS and IKE
Dr. Benjamin Eikel, Software Developer, achelos GmbH, Germany

SIWECOS – Website Protection for SMEs and Web hosts
Peter Meyer, Head of Cyber Security Services, eco – Association of the Internet Industry, Germany



THANK YOU.

■ Julian Weinberger | 650 316 6273 | Julian.Weinberger@ncp-e.com | www.ncp-e.com



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